

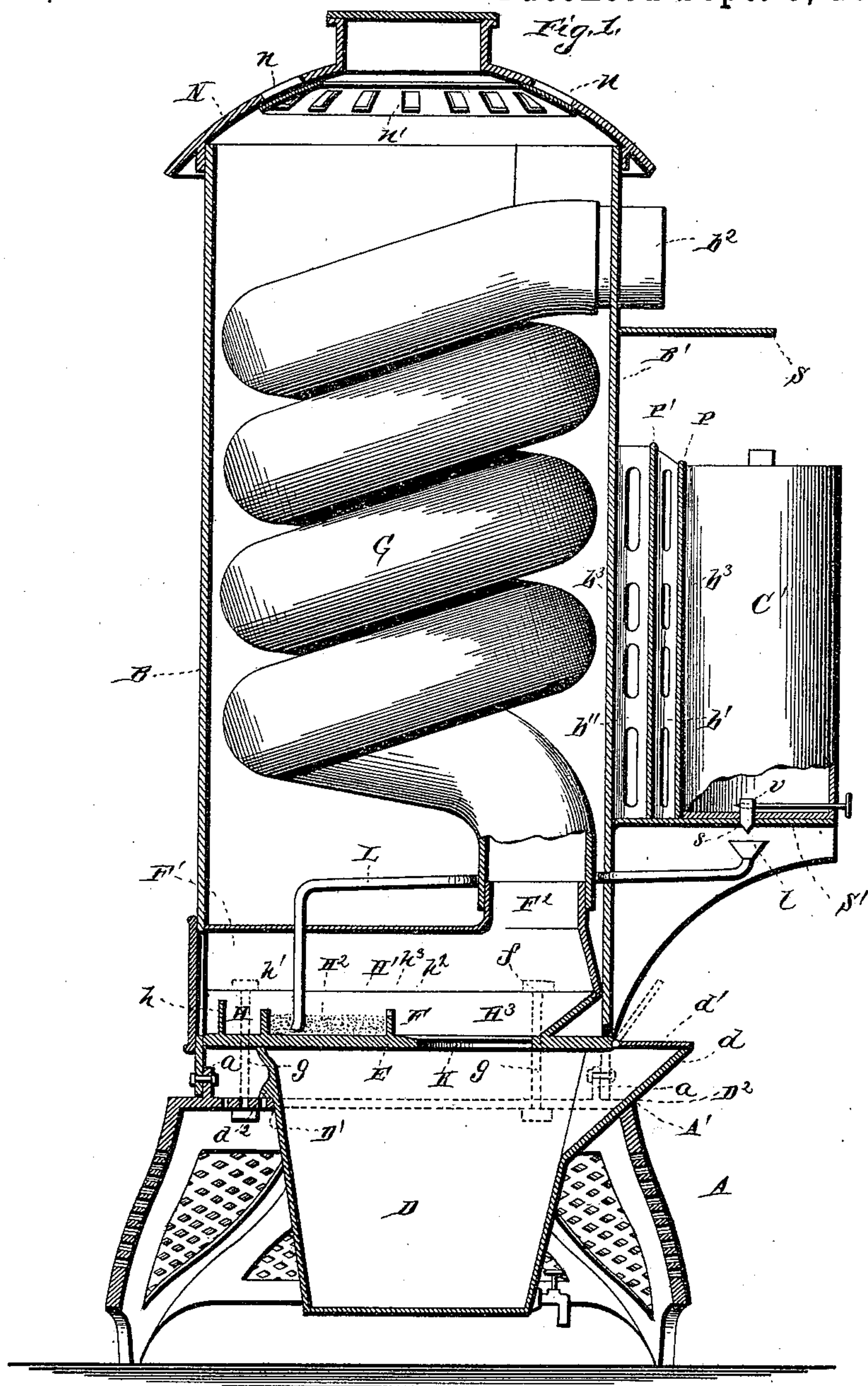
(No Model.)

2 Sheets—Sheet 1.

W. C. HULETT.  
HYDROCARBON STOVE.

No. 436,240.

Patented Sept. 9, 1890.



WITNESSES

*Chas. L. Taylor*  
*Philip C. Masi.*

INVENTOR

*Walter C. Hulett.*  
*by E. W. Anderson*  
*his Attorney*

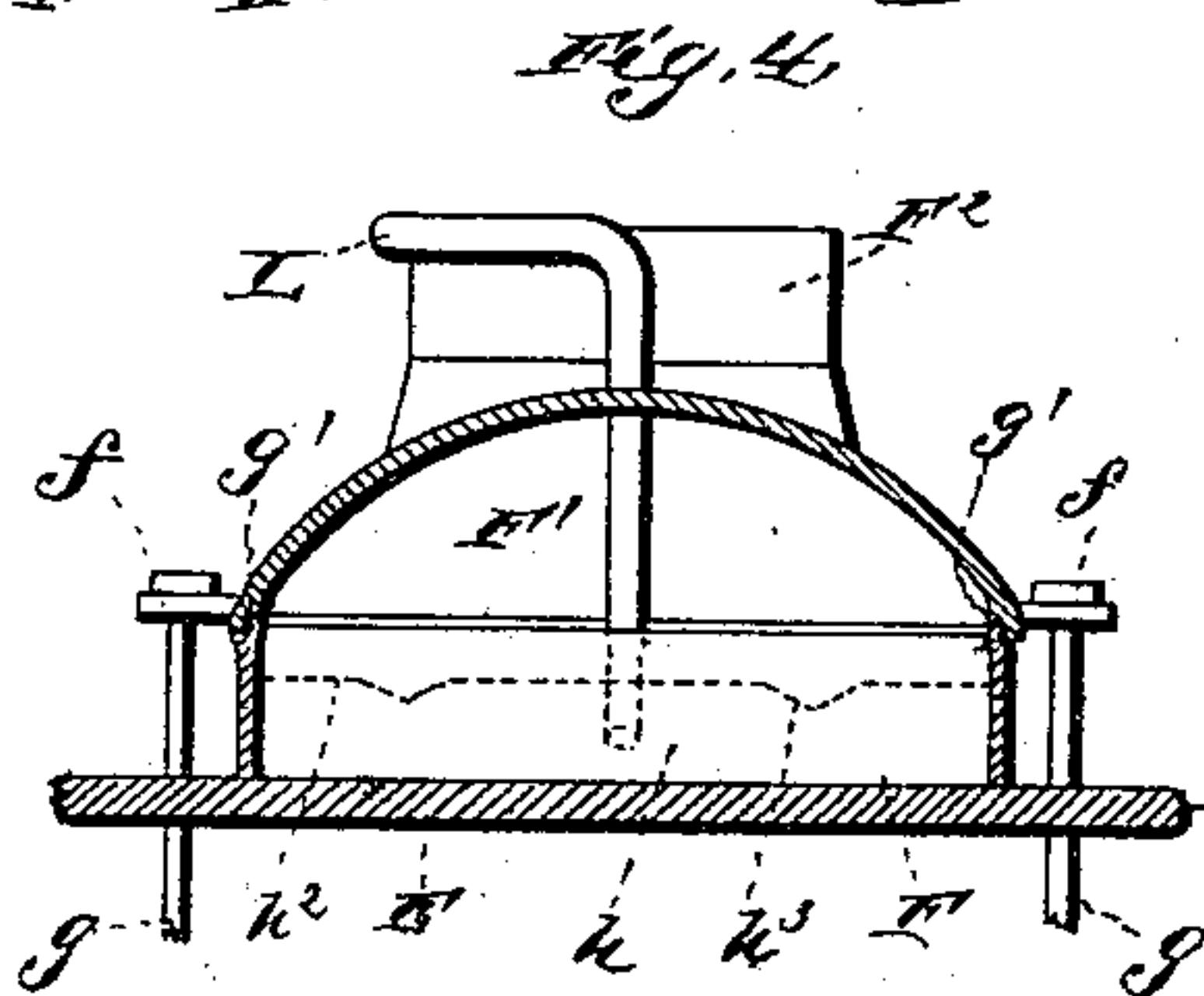
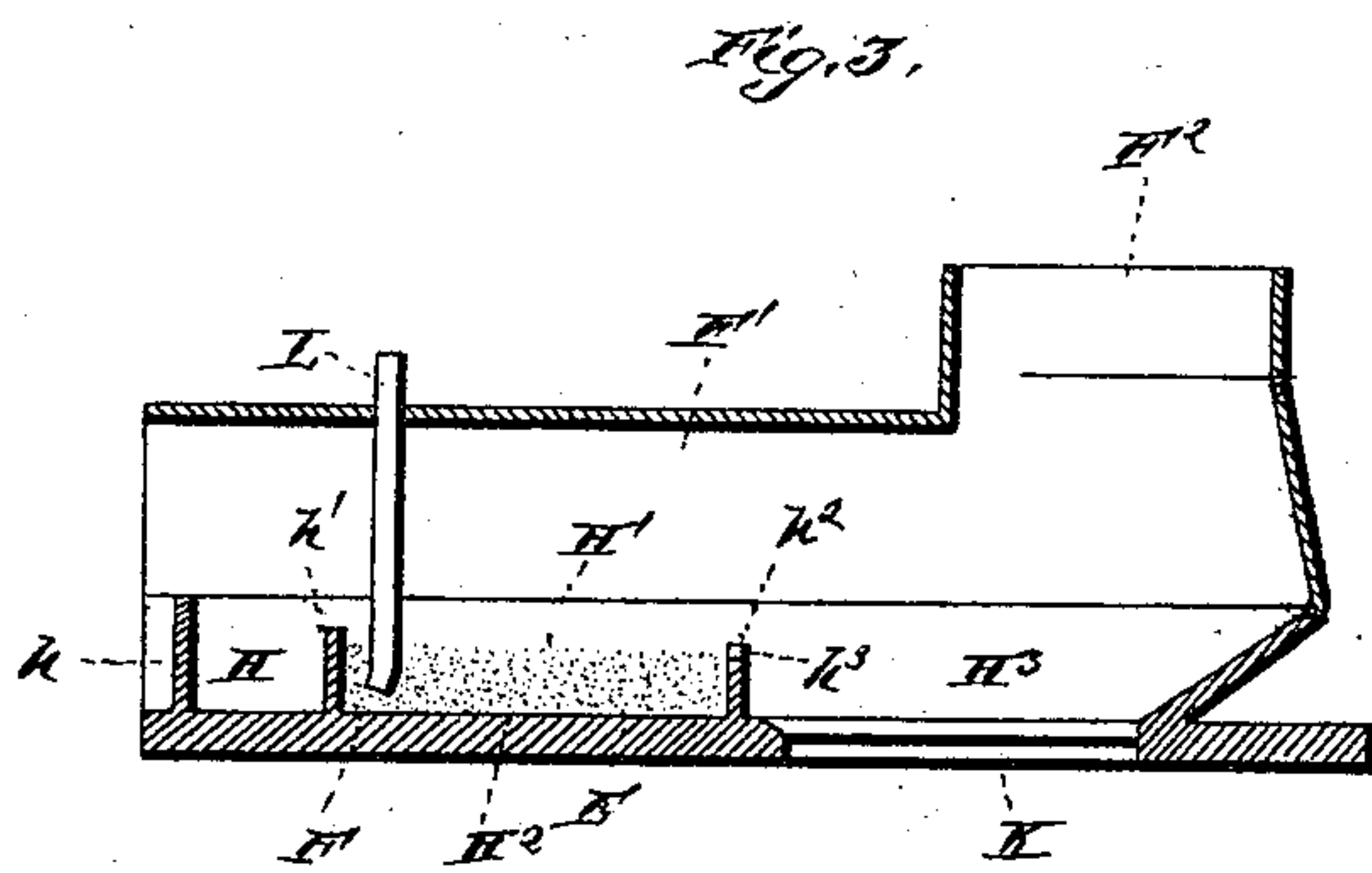
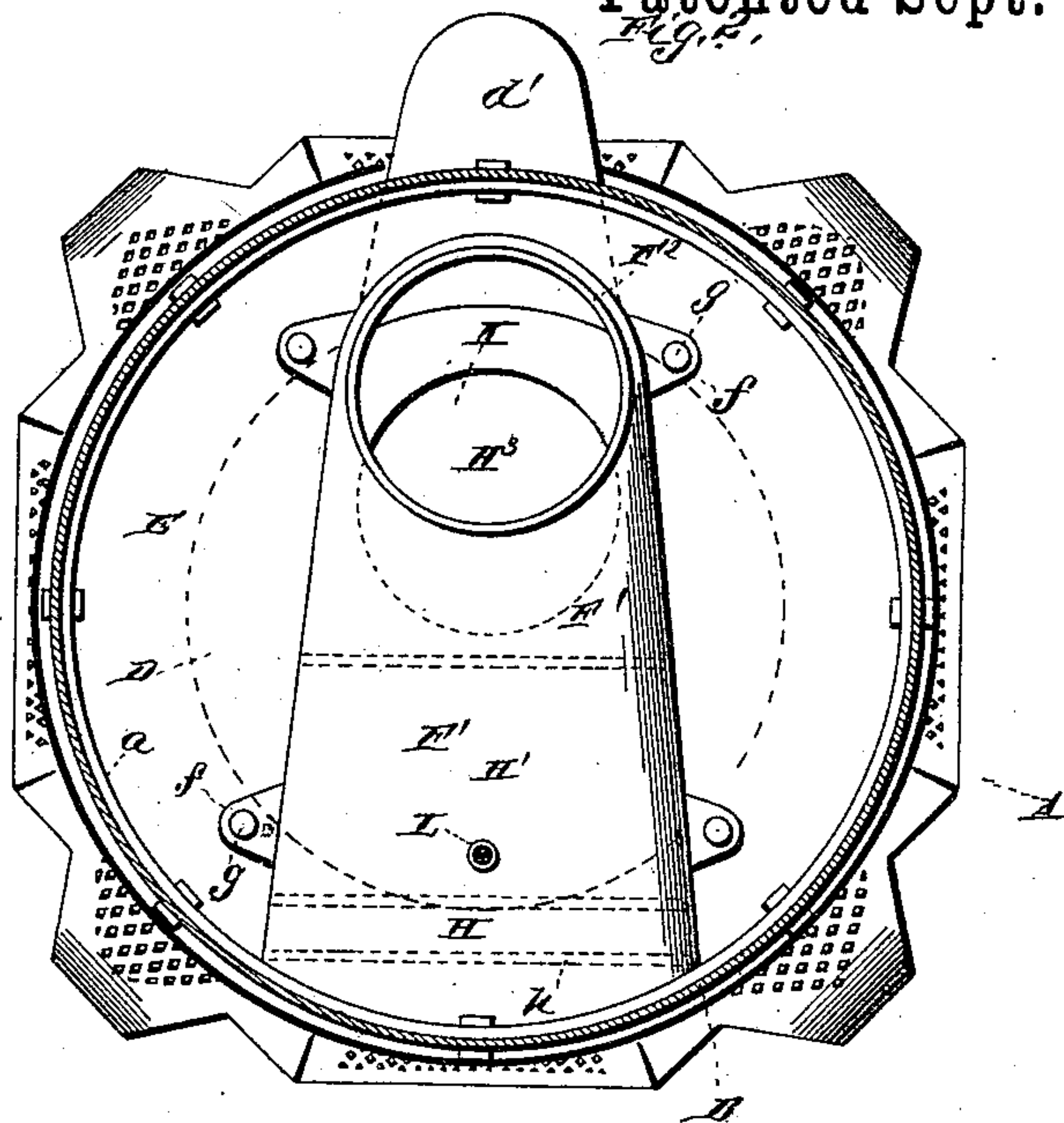
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# UNITED STATES PATENT OFFICE.

WALTER CURTIS HULETT, OF OMAHA, NEBRASKA.

## HYDROCARBON-STOVE.

SPECIFICATION forming part of Letters Patent No. 436,240, dated September 9, 1890.

Application filed May 3, 1890. Serial No. 350,453. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER CURTIS HULETT, a citizen of the United States, and a resident of Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Hydrocarbon-Stoves; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a vertical transverse section. Fig. 2 is a horizontal section, and Figs. 3 and 4 are sectional details.

The object of this invention is to provide an economical and efficient stove for burning hydrocarbon oil; and the invention consists in the novel combination of parts, all as hereinafter set forth.

In the accompanying drawings, the letter A designates the base of the stove, which is cast with its upper surface plain, but provided with a raised rib  $a$ , which is perforated for the passage of short screws or bolts, which fasten the cylinder or body B thereto. Within the circumference of this rib the base is perforated to provide free passage for the air upward into the body portions. This body may be of cylindrical, octagonal, or other prismatic form, and, as the base is plain, may be readily secured thereto by providing a different base-casting for each form of body. The front and sides of the body are of sheet metal usually, while the back B' is cast and provided with an upper guard-shelf S below the stove-pipe hole  $b^2$  and with a lower shelf S', upon which the detachable supply-can C' is placed. In rear of the can are the guard-partitions P and P', which bound the air-chambers  $b'$  and  $b^2$ , which communicate with the air in the room through openings  $b^3$ , as indicated. The shelf S' is provided with an opening, as at  $s$ , to permit the feed from the valve  $v$  of the can.

The back of the base is recessed at A' to provide for the rearwardly-projecting mouth  $d$  of the drip-pot D, said mouth having a hinged cover  $d'$ . The drip-pot is formed with lugs

$d^2$  on its sides, which rest upon the margin of the opening D' in the base, said opening having an extension D<sup>2</sup> in rear to accommodate the mouth of the drip-pot, the top of which projects above the plane of the base. This drip-pot is of large size, as indicated in the drawings, and its capacity is sufficient to contain all the oil of the supply-can if it should have accidentally been allowed to flow too freely without attention.

The cover-plate of the drip-pot is indicated at E. It is usually of circular form, and cast upon its upper surface is the lower section F of the fire-box, which is elongated and usually slightly tapering in form from front to rear. Upon the lower section F is seated the upper section or top F' of the fire-box, which is of arched formation, the arch terminating in rear in the annular upwardly-projecting seat F<sup>2</sup>, to which is attached the lower end of the convoluted pipe G, which lies within the body portion B of the stove, its upper end extending outward through the pipe-hole in the back of the body, as indicated. The upper section F' of the fire-box is provided with lugs  $f$ , which are perforated for the passage of the tie-rods  $g$ , which secure the parts of the stove together. The upper and lower sections F and F' of the fire-box are connected by a lap-joint, as indicated at  $g'$ .

The fire-box is provided in its lower portion with the condensing-chamber H, which is in front of the generating-chamber H', in which is placed the filling of layers of woven wire, indicated at H<sup>2</sup>. In front of the condensing-chamber H is the fender or guard-plate  $h$ , which projects above the level of the partitions  $h'$  and  $h^2$  of the generating-chamber sufficiently to receive the impact of all spitting or jetting of inflamed particles of hydrocarbon and causing the same to fall back into the chamber H, where condensation is effected, and the hydrocarbon is again vaporized for use. The rear partition  $h^2$  is notched, as at  $h^3$ , to allow any accidental surplus of oil fed into the generating-chamber to flow over into the rear chamber H<sup>2</sup> of the fire-box, through the bottom of which is the opening K for the passage of such overflow or drip into the drip-pot below.

L indicates the feed-pipe, the outer end of



which is located below the feed-valve of the can, and is provided with a funnel-shaped mouth *l* to receive the drops of oil as they fall from the valve through the opening in the shelf upon which the oil-can is seated. 5 This feed-pipe extends through the rear wall of the body formed around the convoluted pipe and downward into the bottom of the generating-chamber of the fire-box, where it is vaporized, and passing up through the wire-mesh layers is properly diffused. 10

The top *N* of the body portion of the stove is removable, and is provided usually with an annular series of perforations *n* and registering-valves *n'*, which may be adjusted to vary the draft upward through oil-body portion. 15

The convoluted pipe, which conveys the heated products of combustion, becomes very hot when the stove is in operation, and in order to prevent the can in the rear of the body from being unduly heated the guard-partitions and air-chambers are provided, as hereinbefore described. 20

If it is desired to utilize the stove for cooking purposes, the cover of the body portion may be removed and an oven or other cooking attachment placed upon the upper end of the cylinder. 25

The drip-pot being provided with a mouth in accessible position, is adapted to receive water, which in consequence of the heat of the stove when in operation evaporates in such a manner as to provide a pleasant moist heat. 30

The cover of the mouth of the drip-pot is designed to close the latter to prevent the escape of all fumes from the interior, as it will be seen that the communicating-chamber which contains particles of hydrocarbon consist only of the drip-pot, the fire-box, and the convoluted pipe. When therefore the drip-pot is closed at its mouth, there is no opening for escape of vapor or fumes, the draft being inward from the arched mouth of the fire-box. 35 40 45

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a hydrocarbon-stove, the fire-box generating-chamber and a condensing-chamber 50

in front of said generating-chamber, its raised fender extending above the level of the partitions of the generating-chamber which has an opening in its bottom, substantially as specified. 55

2. In a hydrocarbon-stove, the arched fire-box, its generating-chamber, the condensing-chamber in front of said generating-chamber, the raised fender of said condensing-chamber, and the rear overflow-chamber having an opening in its bottom, substantially as specified. 60

3. In a hydrocarbon-stove, the upper arched fire-box section having a pipe-seat in rear, the lower fire-box section forming a part of the drip-pot cover, and the drip-pot supporting said cover, substantially as specified. 65

4. In a hydrocarbon-stove, the combination, with the body and the plain base having a raised attachment-rib, of the drip-pot seated in an opening of said base, the drip-pot cover, the lower fire-box section, the upper fire-box section, the convoluted pipe, and the top or cover of the body portion provided with adjustable draft-valves, substantially as specified. 70 75

5. In a hydrocarbon-stove, the combination, with the front and sides of the body portion, the inclosed pipe, and fire-box, of the cast back of the body portion, its open air-chambers and partitions arranged in rear of the supply-can, the lower shelf adapted to receive the said can, the upper guard-shelf, and the feed-pipe, substantially as specified. 80

6. In a hydrocarbon-stove, the generating-chamber of the fire-box having in front a condensing-chamber provided with a raised fender projecting above the level of the partition-walls of said generating-chamber, substantially as specified. 85 90

7. In a hydrocarbon-stove, the combination, with the drip-pot, its receiving-mouth, and the cover thereof, of the fire-box and the convoluted tube, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses. 95

WALTER C. HULETT.

Witnesses:

PHILIP C. MASI,  
CHAS. S. TAYLOR.